

Date: Thursday, 4/12/2007 8:45:34 AM
User: Kim Johnston

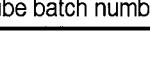
Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: BRACKET ASSEMBLY			
Job Number	: 31727						
Estimate Number	: 10278						
P.O. Number	: N/A		Part Number	: D3121141			
This Issue	: 4/12/2007	S.O. No.	: N/A	Drawing Number	: D3121 REV D		
Prsht Rev.	: NC		Project Number	: N/A			
First Issue	: N/A	Type	: MACHINED PARTS	Drawing Revision	: D		
Previous Run	: 31654		Material	: N/A			
Written By	:		Due Date	: 5/5/2007			
Checked & Approved By	: <u>John W. O. 12</u>		Qty:	12	Um:	Each	
Comment	: Est Rev.Pick.A 04.02.18 New issue KJ/DS						

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M174B1000X02000	17-4 SS Bar 
		Comment: Qty.: 0.5775 f(s)/Unit Total : 6.9300 f(s) Material: 17-4 SS Bar per AMS 5604/5643 (M17-4-B1.000x02.000) <i>M101422 = 1 piece</i> Identify for D3121-111 Batch: <i>M14773</i>
2.0	BAND SAW	BAND SAW 
		Comment: BAND SAW Cut blanks: (1.000" x 2.000") 6.600" long
3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1 
		Comment: HAAS CNC VERTICAL MACHINING #1 1-Machine D3121-111 as per Folio FA361 and Dwg D3121/Identify as D3121-111 2-Deburr 3-Scribe batch number
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE 

Page 1

Form: process

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA:  Date: 07/05/03
QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
07/04/27	3.0	- Part moved while machining	 asian	scrup and replace	07/04/27	 07/04/30	 asian	 07/04/30

NOTE: Date & initial all entries

Date: Thursday, 4/12/2007 8:45:34 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: BRACKET ASSEMBLY
Job Number: 31727		Part Number: D3121141
Job Number: 		
Seq. #:	Machine Or Operation:	Description:
5.0	QC8 	SECOND CHECK 
Comment: SECOND CHECK <i>26 07/04/30 12</i>		
6.0	D312121 	Bolt 
Comment: Qty.: 1.0000 Each(s)/Unit Total : 12.0000 Each(s) Pick: Qty Part Number Description Batch 1 D3121-21 Bolt <u>B31758</u> <i>26 07/04/30 12</i>		
7.0	D3121241 	Bearing Assembly 
Comment: Qty.: 1.0000 Each(s)/Unit Total : 12.0000 Each(s) Pick: Qty Part Number Description Batch 1 D3121-241 Bearing Ass <u>B31700</u> <i>26 07/04/30 12</i>		
8.0	SMALL FAB 1 	SMALL & MEDIUM FAB RESOURCE 1 
Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble D3121-141 as per Dwg D3121. <i>26 07/04/30 12</i>		
9.0	QC5 	INSPECT WORK TO CURRENT STEP 
Comment: INSPECT WORK TO CURRENT STEP <i>26 07/05/02 12</i>		
10.0	PACKAGING 1 	PACKAGING RESOURCE #1 
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <u>57233</u> <i>26 07/05/02 12</i>		
11.0	QC21 	FINAL INSPECTION/W/O RELEASE 
Comment: FINAL INSPECTION/W/O RELEASE <i>26 07/05/03 12</i>		
Job Completion 		<i>26 07/05/03</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	31727
Description: Bracket		Part Number:	D3121-111
Inspection Dwg: D3121	Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.392	+0.002/-0.000					
0.75	+/-0.030					
0.375	+/-0.010					
2.14	+/-0.030					
0.950	+/-0.010					
0.600	+/-0.010					
1.96	+/-0.030					
0.280	+/-0.010					
3.330	+/-0.010					
3.630	+/-0.010					
R0.25	+/-0.030					
R0.375	+/-0.010					
Ø0.201	+0.005/-0.000					
0.100	+/-0.010					
6.18	+/-0.030					
5.89	+/-0.030					
0.080	+/-0.010					
0.300	+/-0.010					
30°	+/-0.1°					
R0.25	+/-0.030					
0.130	+/-0.010					
0.381	+/-0.010					
0.281	+/-0.010					
0.400	+/-0.010					
0.580	+/-0.010					
100°	+/-0.1°					
0.32	+/-0.010					

Measured by:	<u>SA</u>	Audited by:	<u>BC</u>	Prototype Approval:	N/A
Date:	01.01.21	Date:	02.06.20	Date:	N/A

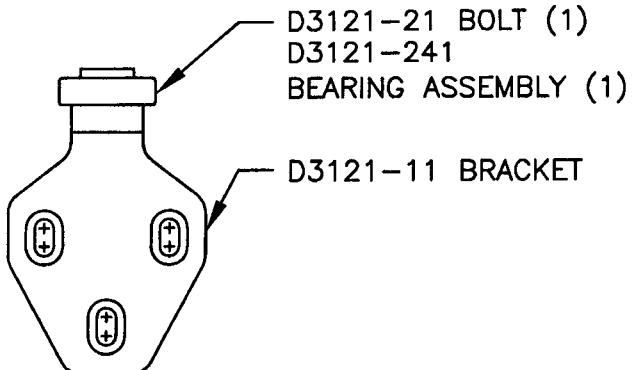
Rev	Date	Change	Revised by	Approved
A	04.01.12	New Issue P/O D3121-141	KJ/RF	
B	04.05.05	Dimensions changed/re-arranged per Dwg revision	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	<u>SA</u>

DART

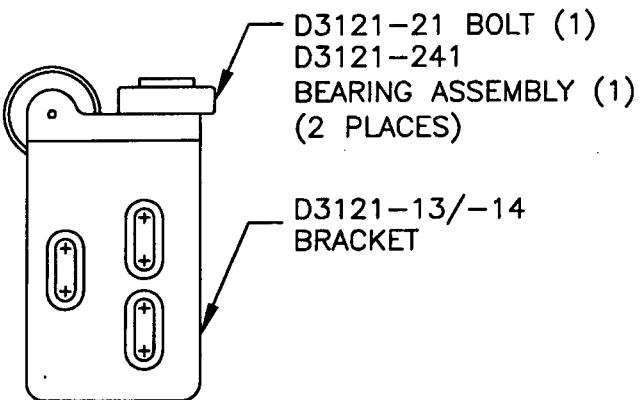
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D
		D3121	SHEET 1 OF 10
DATE		TITLE	SCALE
06.05.17		BRACKET ASSEMBLY	1:2
A	02.04.15	NEW ISSUE	
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146	
C	04.02.17	ADD CLEARANCE; USE -241 BEARING	
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000	

RELEASED

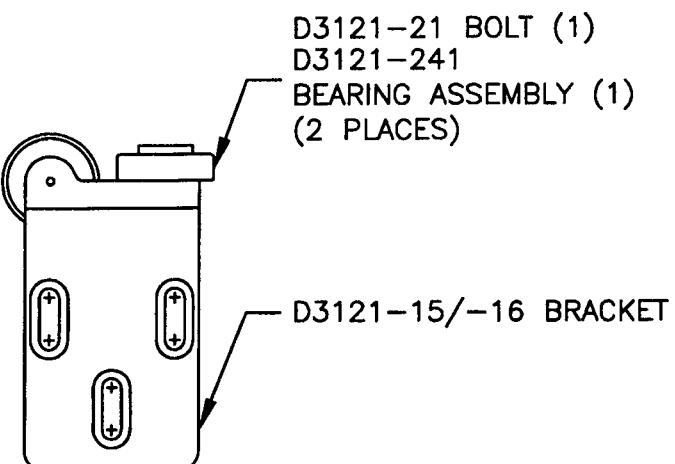
06.06.02

**D3121-041 BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-33)

**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-37/-38)

**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY**

(REPLACES PREMIER P/N B30-23000-35/-36)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 31721

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

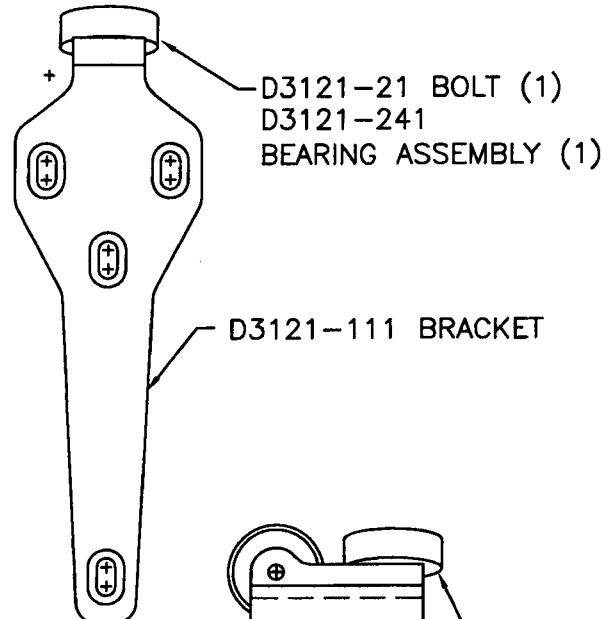
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3121
DATE		TITLE BRACKET ASSEMBLY

REV. D

SHEET 2 OF 10

SCALE

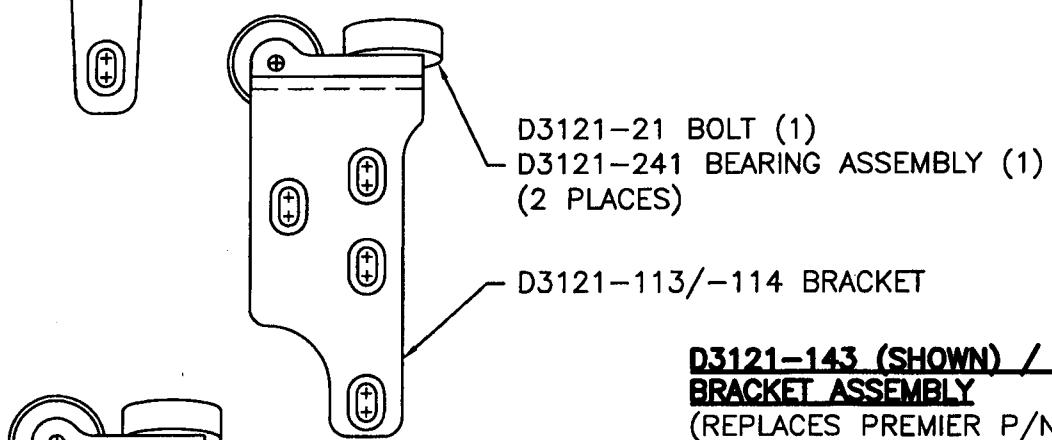
1:2



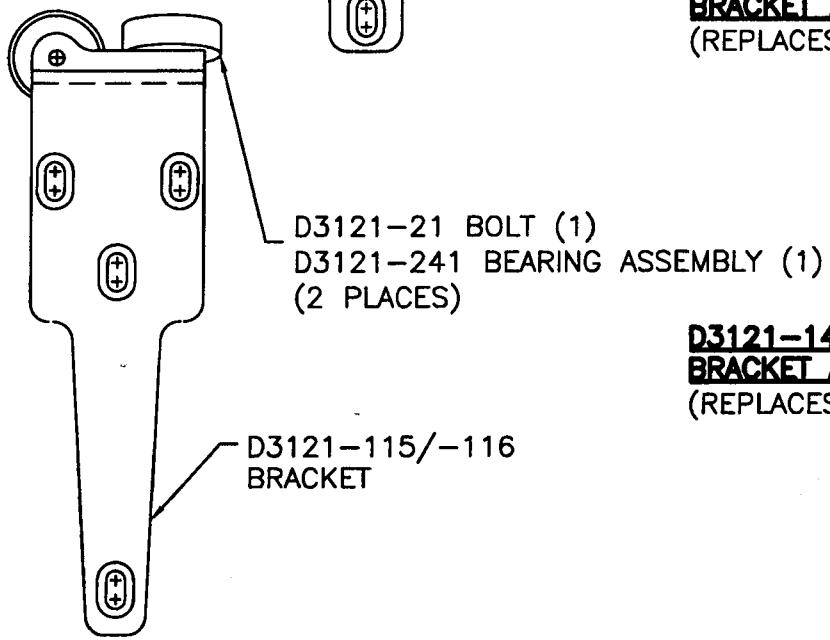
D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

RELEASED

06.06.02



D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-05/-06)

RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 31727

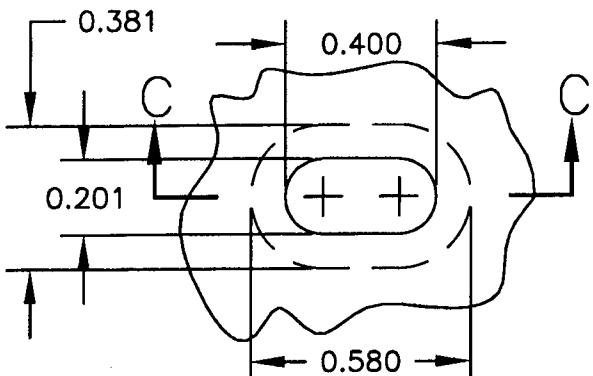
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

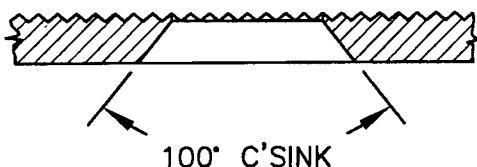
DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3121
DATE		REV. D SHEET 3 OF 10 TITLE SCALE 1:1 BRACKET ASSEMBLY

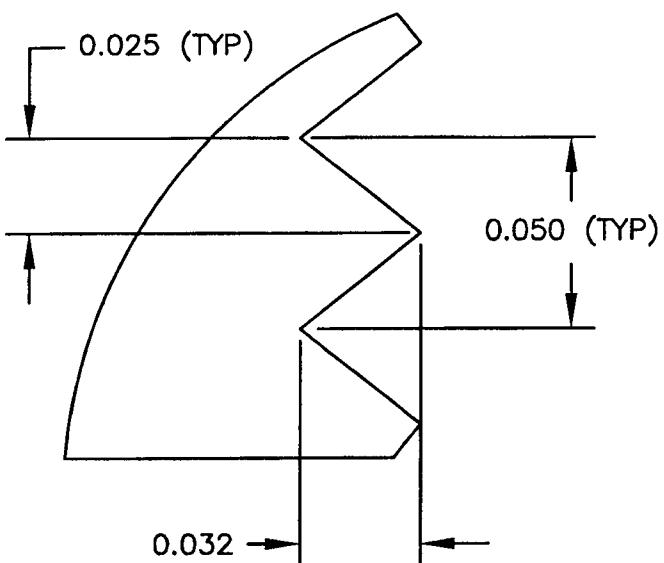
DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



**SECTION
C-C**



DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 3172

RELEASED

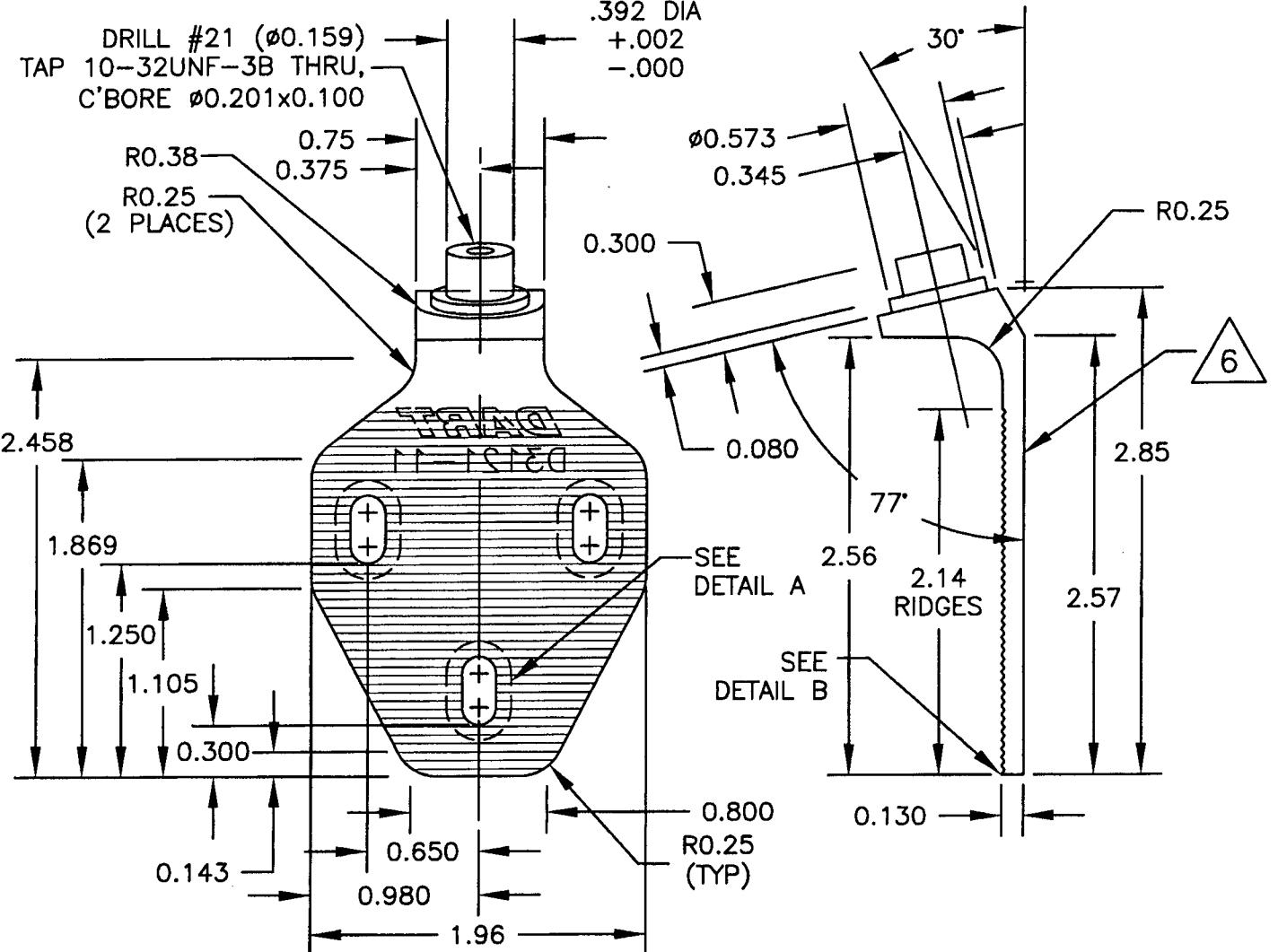
6-6-02

Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>CH</i>	DRAWN BY <i>C.B</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED <i>J.D.H.</i>	APPROVED <i>-</i>	DRAWING NO. D3121	REV. D SHEET 4 OF 10	
DATE 06.05.17	TITLE BRACKET ASSEMBLY		SCALE 1:1	



D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
31727
NO.

RELEASED

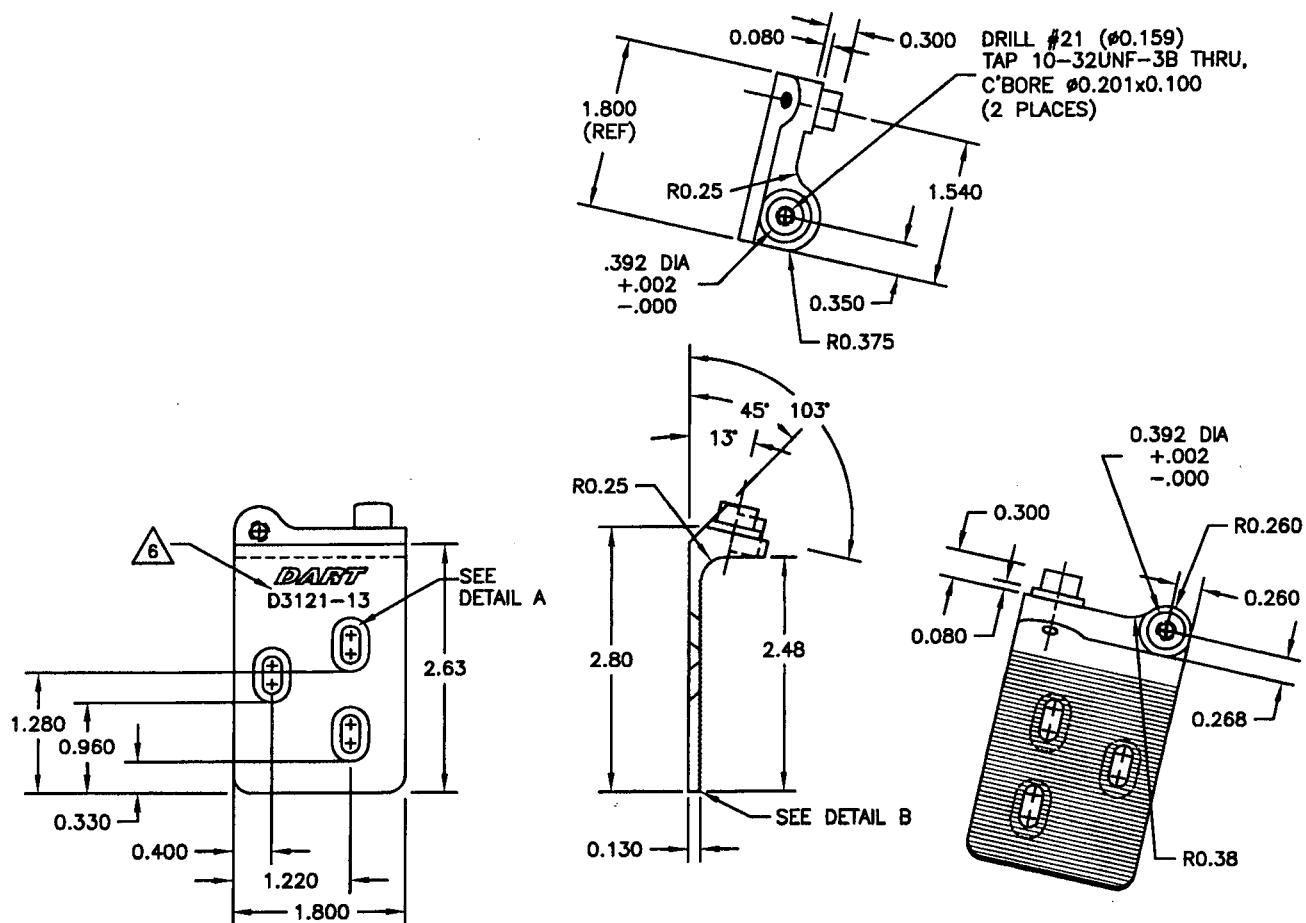
06.06.02 ~~4~~

Copyright © 2004 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D
		D3121	SHEET 5 OF 10
DATE		TITLE	SCALE
06.05.17		BRACKET ASSEMBLY	1:2

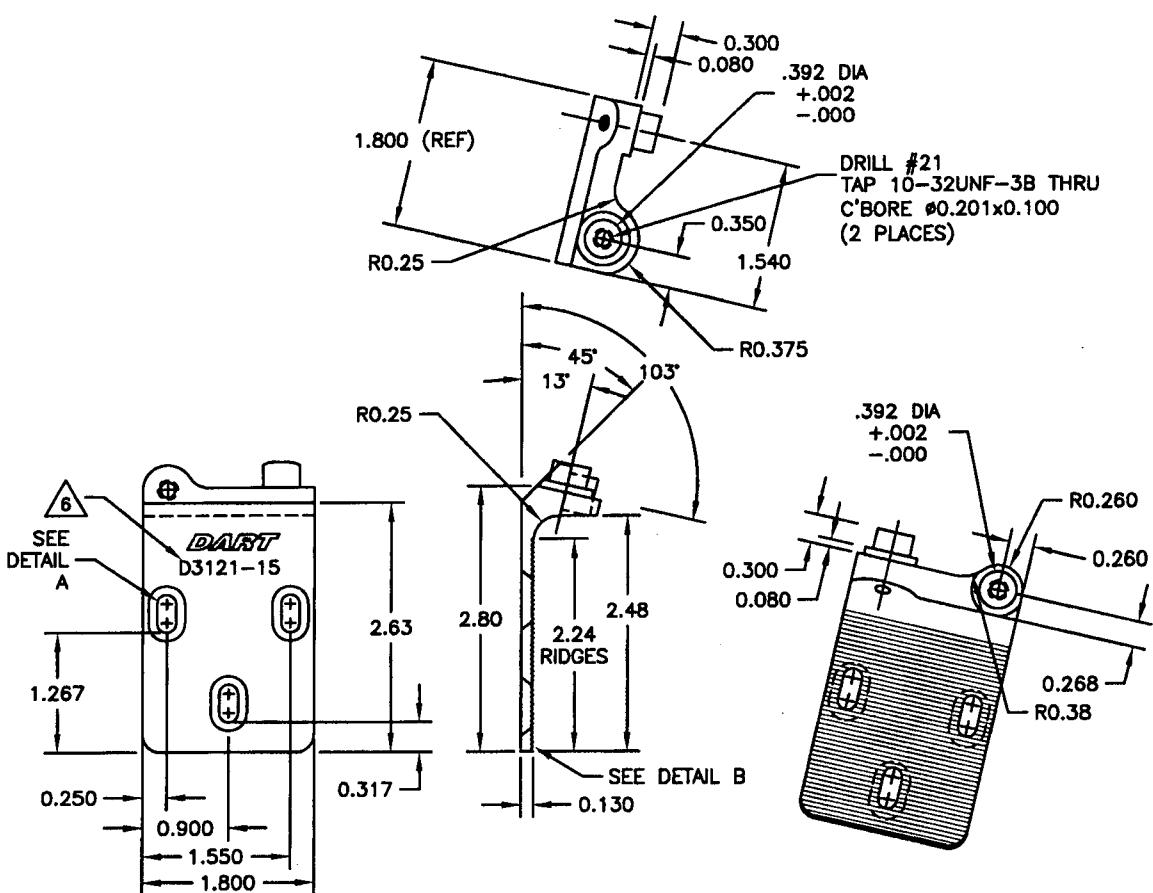
**D3121-13 BRACKET (SHOWN)****D3121-14 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 3172
 RELEASED
 06.06.02

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D
		D3121	SHEET 6 OF 10
DATE	TITLE	SCALE	1:2
06.05.17	BRACKET ASSEMBLY		

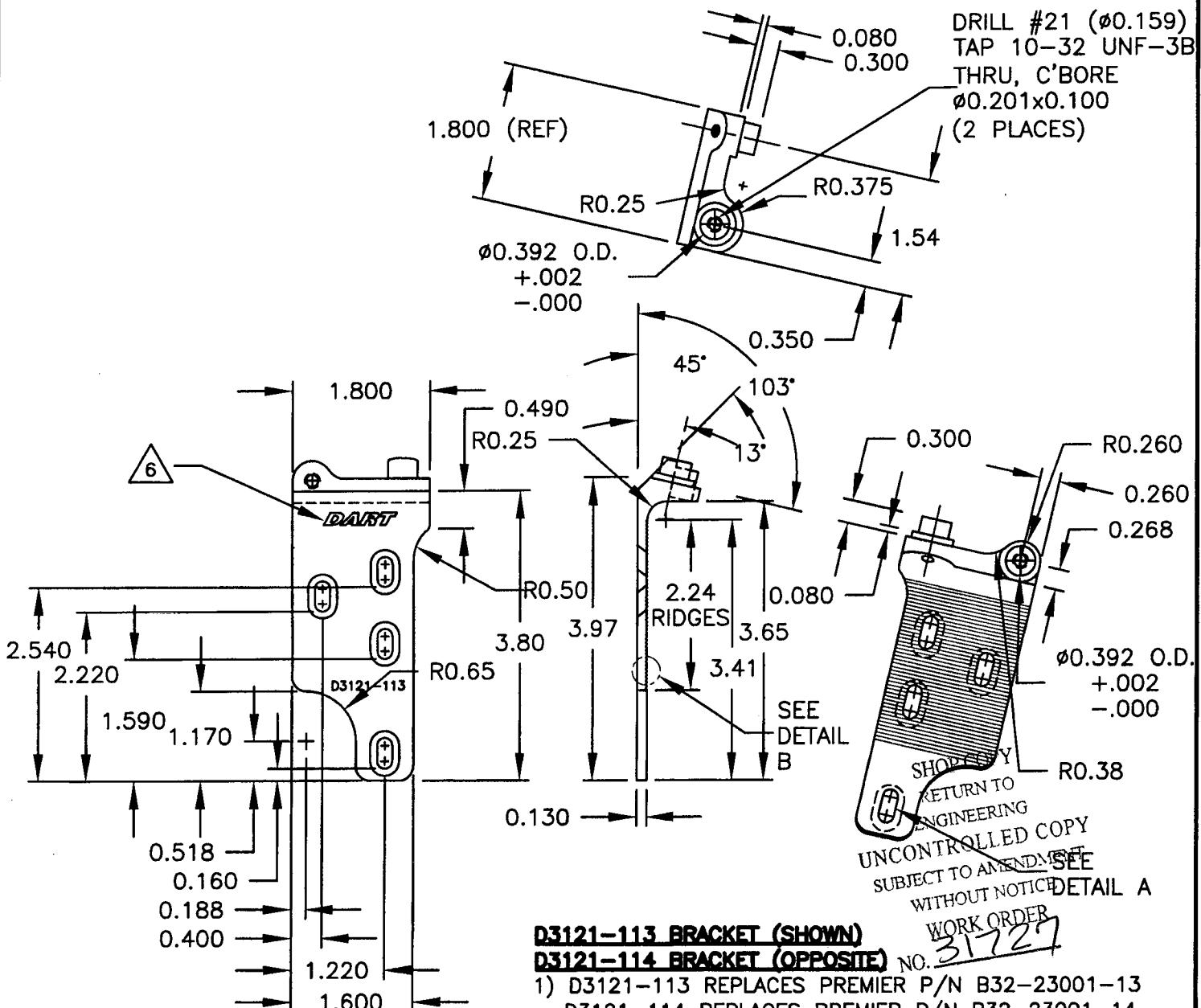
**D3121-15 BRACKET (SHOWN)****D3121-16 BRACKET (OPPOSITE)**

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 3172

RELEASED

06-06-02



D3121-113 BRACKET (SHOWN)

D3121-114 BRACKET (OPPOSITE)

1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14

2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF. DRAFT SPEC. M17-4-B)

(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH

MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
ES ARE PER DRAFT OS 1.018 UNLESS

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES

4) ALL DIMENSIONS ARE IN INCHES

5) BREAK ALL SHARP EDGES 0.005 TO 0.015

6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN

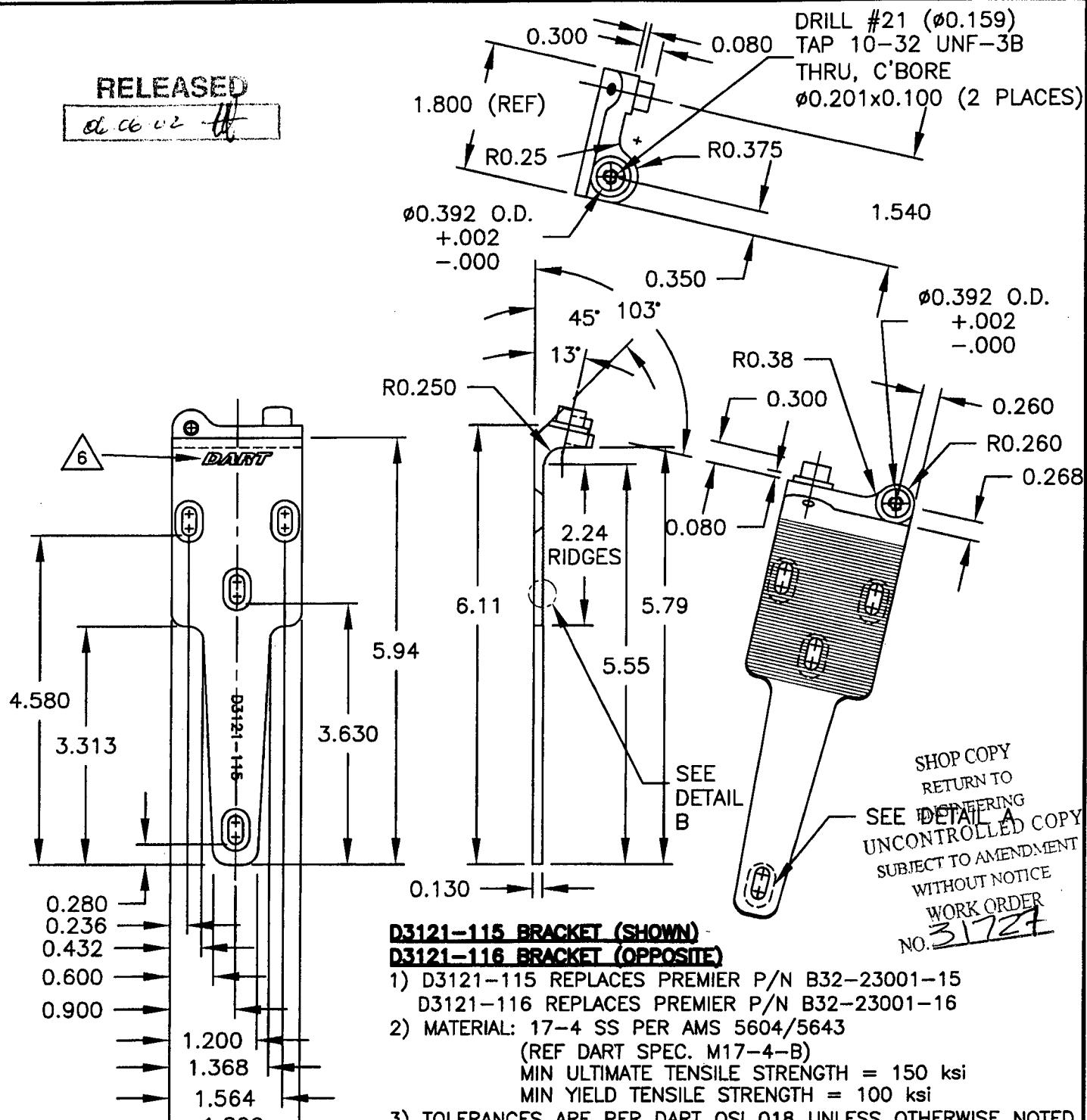
7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2002 by DART AEROSPACE LTD
ALL RIGHTS RESERVED. THE EXPRESS CONSENT OF THE COMPANY IS NECESSARY FOR
THE PUBLICATION OF THE INFORMATION CONTAINED HEREIN.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3121
DATE		TITLE BRACKET ASSEMBLY
04.02.18		SCALE 1:12



D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

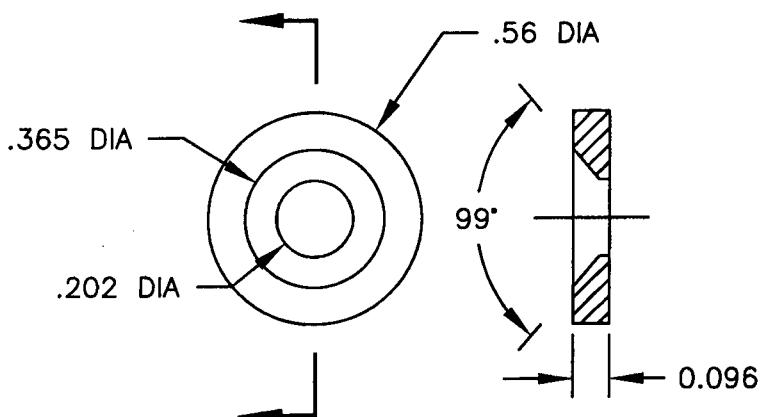
Copyright © 2002 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

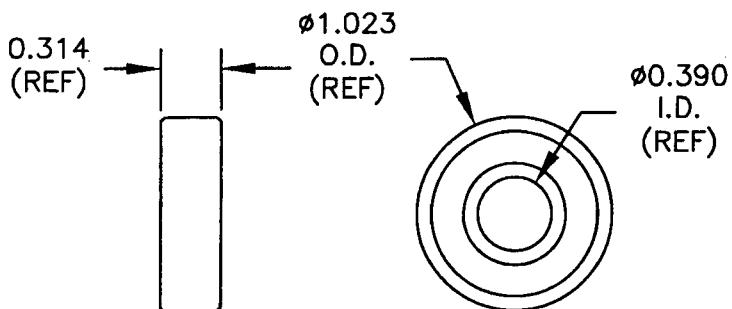
DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. D
DATE		D3121	SHEET 10 OF 10

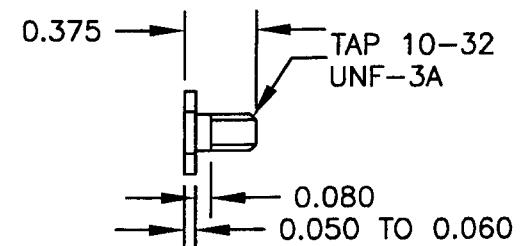
06.05.17 TITLE BRACKET ASSEMBLY SCALE 1:1

**D3121-17 WASHER (SCALE 2:1)**

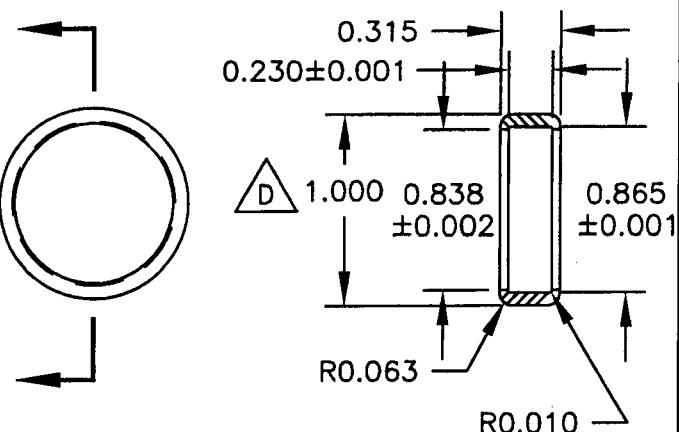
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

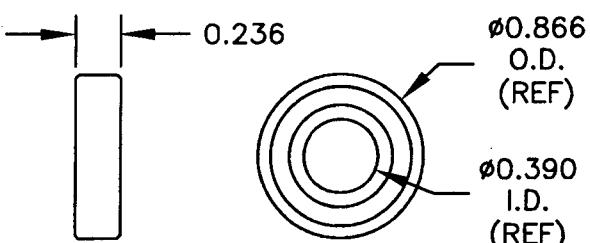
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-21 BOLT (SCALE 1:1)**

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

NO. **D3121-241 BEARING ASSEMBLY (SCALE 1:1)**

RELEASER
FOR COPY
RETURNED
06/05/02
ENGINEERED
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **D3121-241 BEARING ASSEMBLY (SCALE 1:1)**

